

CLAIMS

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1. A subsystem controller for control of a device or subsystem within an electronic system implemented as a single integrated circuit, the subsystem controller comprising:
- 5 a complex programmable logic device that can be programmed to provide logic circuits that implement control functionality;
- a micro-controller that can execute software routines that implement control functionality;
- 10 read-only memory that stores executable code for execution by the micro-controller;
- random-access memory that can store data and executable code for execution by the micro-controller;
- a bus interface for exchanging data and control signals between the subsystem controller and system processing components; and
- 15 an additional electronic interface to a device or subsystem controlled by the subsystem controller.
2. The subsystem controller of claim 1 wherein control functionality of the subsystem controller is partitioned between logic circuits programmed into the complex programmable logic device and software routines executed by the micro-controller.
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3. The subsystem controller of claim 1 programmed to control display of information on an LCD display window included in an external front panel display of a server computer.
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4. The subsystem controller of claim 1 wherein the bus interface is an I²C bus interface.

5. The subsystem controller of claim 1 wherein the additional electronic interface is an 8-bit input/output bus and additional signal lines.

6. A method for controlling a subsystem within a complex electrical device, the
5 method comprising:

providing a single-IC subsystem controller;

programming control functionality into the single-IC subsystem controller by

programming logic circuits into a complex programmable logic device
included in the single-IC subsystem controller,

10 implementing software routines for execution by a micro-controller
within the single-IC subsystem controller, and

storing the software routines in the single-IC subsystem controller; and

interconnecting the single-IC subsystem controller to the subsystem within the
complex electrical device.

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7. The method of claim 6 wherein the subsystem is an LCD display window that displays information about the components within the complex electrical device and about the state of the complex electrical device.

20 8. The method of claim 6 wherein the complex electrical device is a computer system.

9. The method of claim 6 wherein the single-IC subsystem controller includes the complex programmable logic device, the micro-controller, a read-only memory, a
25 random-access memory, a bus interface, and an additional electronic interface.

10. The method of claim 9 wherein interconnecting the single-IC subsystem controller to the subsystem within the complex electrical device further includes interconnecting the subsystem with the additional electronic interface.